

Practice: 344 - Residue Management, Seasonal

Scenario: #1 - Residue Management, Seasonal

Scenario Description:

Historically, producers have conducted tillage activities in the spring and fall, both immediately before and after the cash crop. Crop residues are fully incorporated into the soil with these tillage operations. Post harvest tillage operations served to suppress weeds, reduce insect populations, and prepare fields for both immediate (spring) and subsequent (fall) planting events. These periods of intensive tillage have led to excessive soil loss, often above the Soil Loss Tolerance (T) and have also resulted in a loss of seasonal wildlife cover. The RUSLE2 and/or WEPS models will be used to review the farming operation and determine if enough residue is being retained between planted crops to keep soil loss below T and the appropriate wildlife habitat tools will be used to assess wildlife habitat - where wildlife is an identified concern. The producer will then remove operations, or select alternate operations, to manage residue between planted crops. Resource concerns addressed include soil erosion (sheet, rill, wind), and fish & wildlife (inadequate food and cover).

Before Situation:

Row crops or small grains are grown and harvested. Fields are tilled immediately following harvest, with rows in some fields being hipped for drainage. Residue amounts after harvest average 30% or less, resulting in bare soil being exposed to wind and water erosion poor cover situation for wildlife. Over the winter residue degrades and sediment/nutrient runoff from fields increases. Weed control is accomplished primarily through tillage, requiring multiple operations. Sediment and nutrient runoff from the fields flows into streams, water courses or other water bodies causing degradation to the receiving waters. Soil health (soil organic matter) declines over time as a result of tillage practices, low residue monocultures, and long periods of bare soil.

After Situation:

344 is applied per the practice plan following all the appropriate criteria for the planned purpose(s). No tillage occurs after crop harvest until just prior to planting the next crop. Runoff and erosion are reduced and wildlife cover is improved. Wind erosion is reduced by standing residues. Weeds or the cover crop is terminated with tillage, a roller-crimper, shredding, with an approved herbicide, or a combination of these methods until just prior to planting the next crop. Over time, soil health is improved due to the additional biomass, ground cover, soil infiltration, and plant diversity in the cropping system.

Scenario Feature Measure: Area planted

Scenario Unit: Acre

Scenario Typical Size: 40

Scenario Cost: \$259.20

Scenario Cost/Unit: \$6.48

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price (\$/unit)	Quantity	Cost
<i>Labor</i>						
Supervisor or Manager	234	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$32.40	8	\$259.20